

Estimating a Semi-Parametric Duration Model without Specifying Heterogeneity

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ABSTRACT. This paper presents a new estimator for the mixed proportional hazard model that allows for a nonparametric baseline hazard and time-varying regressors. In particular, this paper allows for discrete measurement of the durations as happens often in practice. The integrated baseline hazard and all parameters are estimated at regular rate, \sqrt{N} , where N is the number of individuals. A hazard model is a natural framework for time-varying regressors if a flow or a transition probability depends on a regressor that changes with time since a hazard model avoids the curse of dimensionality that would arise from interacting the regressors at each point in time with one another.

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